

## ABSTRACT OF THE DISCLOSURE

In a discharge space, a substrate 201 and a cathode 206 are disposed a distance d (cm) apart from each other, and gas containing one or more silicon compounds and hydrogen are introduced into the discharge space, and a product Pd of a film forming pressure P (Pa) and d, and a hydrogen flow rate M (SLM) are set so as to meet a relation:

$$80M + 200 \leq Pd \leq 160M + 333,$$

and an RF power is applied to generate a plasma and a non-monocrystal silicon thin film is formed on the substrate 201 in the discharge space. Thereby, there is provided a thin film formation method making it possible to form an amorphous silicon film in which both a uniform film forming rate of a film distribution facilitating an implementation of a large area and a high conversion efficiency can be obtained while achieving an increase in the film forming rate.